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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,073	06/09/2005	Takashi Asakura	AKA-0284	8913

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EXAMINER	
SOROUSH, ALI	
ART UNIT	PAPER NUMBER
1616	

MAIL DATE	DELIVERY MODE
10/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,073	ASAKURA, TAKASHI	
	Examiner	Art Unit	
	Ali Soroush	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-20 and 23-29* is/are pending in the application.

4a) Of the above claim(s) *20 and 23-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-19 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Receipt

Applicant's response filed on 07/20/2007 to the Office Action mailed on 04/20/2007 is acknowledged.

Status of the Claims

Claims 1-14, 21, and 22 have been cancelled, claims 20, and 23-28 are withdrawn by the applicant, claim 29 has been newly added, and claims 15 and 18 have been amended. Therefore claims 15-19 and 29 are currently pending examination for patentability.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless.–
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Saida et al. (Japanese Patent Publication 62-275182, Published 11/30/1987). Saida et al. teaches formation of particles for intercepting ultraviolet ray made from a complex oxide of zinc and more than one type of the following metals: aluminum, iron, chromium, cerium zirconium and titanium. The average particle size is 0.001 micrometer – 0.5 micrometer. (See page 3, Lines 5-9). In a preferred embodiment Saida et al. teaches mixing 9.24 g titanium oxide, 23.6 g aluminum oxide, and 94.1 g zinc oxide pulverizing the mixture and baking for 1 hour at a temperature of about 850°C.

This will produce a particle of Zn/Al/Ti with an atomic ratio of 100/40/10 and a particle size of 0.2 micrometers. It should be note that titanium dioxide is know either as titanium dioxide or titanium oxide. Saida et al. teaches that such a particulate is use in intercepting ultraviolet light it would have utility as a sunscreen agent. The instant claims are not structurally distinguishable from the prior art and therefore it is the examiners position that the titanium dioxide particle of Saida et al. would necessarily posses the characteristics of having a reflectivity to visible light less than 95% and exhibit a transmittance to infared radiation which is not 0.2 more than that of rutile dioxide pigment of 0.2 to 0.4 particle size. For the foregoing reasons the instant titanium dioxide particulate is anticipated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue; and resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. The rejection of claims 15, 18 and 19 under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (US Patent 6083490, Published 07/04/2000) in view of Bruno (US Patent 5973175, Published 10/26/1999) **is withdrawn** in light of the amendment submitted with the aforementioned response.

2. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saida et al. (Japanese Patent Publication 62-275182, Published 11/30/1987)

Applicant Claims

Applicant claims a particulate titanium dioxide of rutile crystalline form having a particle size between 0.5 to 2.0 μm and reflectivity to visible light less than 95%, wherein aluminum oxide and zinc oxide are incorporated into the crystalline lattice.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Saida et al. teaches formation of particles for intercepting ultraviolet ray made from a complex oxide of zinc and more than one type of the following metals: aluminum, iron, chromium, cerium zirconium and titanium. The average particle size is 0.001 micrometer – 0.5 micrometer. (See page 3, Lines 5-9). In a preferred embodiment Saida et al. teaches mixing 9.24 g titanium oxide, 23.6 g aluminum oxide, and 94.1 g zinc oxide pulverizing the mixture and baking for 1 hour at a temperature of about 850°C. This will produce a particle of Zn/Al/Ti with an atomic ratio of 100/40/10 and a particle size of 0.2 micrometers. It should be note that titanium dioxide is know either as titanium dioxide or titanium oxide.

Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)

Saida et al. teaches a particle having titanium oxide, zinc oxide, and aluminum oxide with a particulate size between 0.001 micrometers to 0.5 micrometers. Saida et al. does not anticipate a particle of titanium dioxide having an aluminium oxide concentration of 0.05 to 0.4% and a zinc oxide concentration of 0.1 to 0.8%. However Said et al. makes the instantly claimed concentrations obvious.

Finding of Prima Facie Obviousness Rational and Motivation (MPEP §2142-2143)

It would have been obvious to one of ordinary skill in the art to adjust the concentrations of Saida et al. in order to arrive at the instant particulate size. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to manipulate the amounts of titanium oxide, zinc oxide and aluminum oxide in order to determine the proper concentration needed to form a particulate useful in sunscreen applications. Saida et al. teaches that such a particulate is use in intercepting ultraviolet light it would have utility as a sunscreen agent. The instant claims are not structurally distinguishable from the prior art and therefore it is the examiners position that the titanium dioxide particle of Saida et al. would necessarily posses the characteristics of having a reflectivity to visible light less than 95% and exhibit a transmittance to infared radiation which is not 0.2 more than that of rutile dioxide pigment of 0.2 to 0.4 particle

size. For the foregoing reasons the instantly claimed particulate titanium dioxide would have been obvious to one of ordinary skill in the art at the time of the instant invention.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

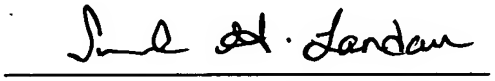
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Soroush whose telephone number is (571) 272-9925. The examiner can normally be reached on Monday through Thursday 8:30am to 5:00pm E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number For the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ali Soroush
Patent Examiner
Art Unit: 1616



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